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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,710	11/25/2003	Eberhard Kurt Draeger	6409.200-US	6304

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EXAMINER	
KHANNA, HEMANT	
ART UNIT	**PAPER NUMBER**
1654	

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/721,710	DRAEGER, EBERHARD KURT	
	Examiner	Art Unit	
	Hemant Khanna	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

4a) Of the above claim(s) *1-10 and 17-52* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/17/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election with traverse of claims 11-16 that belong to Group II in the reply filed on November 07, 2006 is acknowledged. It is noted that the Applicant has not argued the validity of the distinctness represented by the processes of the inventions of Groups I, II and III as set forth in the restriction requirement filed October 03, 2006 when responding to the requirement for restriction.

As set forth in the Examiner's requirement for restriction filed on October 03, 2006, the inventions of Groups I, II and III are independent or distinct because "the different methods of administration will involve a different formulation of the active agent in accordance with the frequency of delivery to a subject. Because these active agents are not obvious variants, a search for a method with one agent would not yield a method with the other agent".

The restriction between Groups I, II and III is maintained. By virtue of their divergent subject matter, and because searching one invention would not be co-extensive with searching the other, the inventions of Groups I, II and III are distinct.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-52 are pending. Claims 1-10, and 17-52 are withdrawn from consideration as being drawn to a non-elected invention. Election was made with traverse in the reply filed on October 03, 2006.

Claim Objections

2. Claim 11 is objected to because of the following informalities: In line 6, "administered" is misspelled. Further, in line 6 the first appearing "the" in the phrase "at the about the" should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 11 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "about" in claim 11 is an undefined range which renders the claim indefinite. It is not clear in what way "about the same time" is intended to limit the time of administration. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 11-13, 15-16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The specification, while being enabling for methods to administer a once daily dose of insulin glargine, does not reasonably provide enablement for the methods to administer a once daily dose of all other basal insulins. All other basal insulins are atleast twice-a-day basal insulins and the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with claim 11.

The factors to be considered in determining whether undue experimentation is required are summarized In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). The Court in Wands states: "Enablement is not precluded by the necessity for some experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' " (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or

unpredictability of the art, and (8) the breadth of the claims. While all of these factors are considered, a sufficient amount for a *prima facie* case is discussed below.

Nature of the invention. The instant invention is to methods for administering a once daily dose of basal insulin for the treatment of diabetes at a specified time on day one and repeating the step each successive day at about the same time the basal insulin was administered on day one.

Breadth of the claims. According to the language of the claims, the method for administering a once daily basal insulin for the treatment of diabetes can be extrapolated to any basal insulin.

State and un/predictability of the prior art. The claimed subject matter is lacking in predictability. No example exists for the administration of a once daily dose of basal insulin generally. Specifically, USPN 6,221, 633 teaches that adjusting the amount of insulin required to maintain a steady state level of acceptable serum glucose level is unpredictable (column 1, lines 25-30). Further, the treatment of diabetes with basal insulin agents such as NPH insulins have too short a duration of action and have a too severely pronounced maximum (column 2, lines 1-5). At the time the invention was made, the successful administration of all basal insulins for the treatment of diabetes was not routinely obtainable by those skilled in the art. It is presumed that the Applicant's intent is to administer basal insulin, insulin glargine once daily. Since the success in treating diabetes depends on maintaining a basal supply of insulin particularly at night, a preparation should be available that acts for a long time, which is not enabled by all basal insulins.

Working examples. No examples are disclosed in the specification that demonstrate results to indicate the treatment of diabetes by the administration of all basal insulins.

Guidance in the specification. The specification provides little guidance regarding practice of the claimed methods to extrapolate means of administration of all basal insulins for the treatment of diabetes when administered once daily. There is a lack of predictability in the art regarding the administration of a basal insulin for the treatment of diabetes for all basal insulins administered once daily.

Amount of experimentation necessary. Given the unpredictability of the art in view of the administration of a once daily dose of all basal insulins, and the lack of guidance provided in the specification, one of ordinary skill in the art would be burdened with undue experimentation to practice the invention commensurate with the scope of the claim. Although the applicants have identified an interesting application of basal insulins namely, treatment of diabetes with a once daily dose, but essentially all of the work required to ultimately develop a process wherein the once-daily dose of any basal insulin will treat diabetes, needs to be further undertaken.

Relative Skill of those skilled in the art. In view of the discussion of each of the preceding seven factors the level of skill in this art is high and is at least that of a Ph.D. with several years of experience in the art. As the cited art would point to, even with a level of skill in the art that is Ph.D. predictability of the results is not invariable.

In consideration of each of the factors 1-8, it is apparent that there is undue experimentation because of variability in prediction of outcome that is not addressed by

the present application disclosure, examples, teaching and guidance presented. Absent factual data to the contrary, the amount and level of experimentation needed is undue.

Claim Rejections - 35 USC § 102

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Lantus: (insulin glargine [rDNA origin] injection) Diabetes Therapy [online], April 6, 2001 [retrieved on 2006-11-28. Retrieved from the internet: URL:http://www.lantus.com.

The instant claims are drawn to a method for administering a once daily dose of basal insulin to a subject in need of treatment for diabetes wherein the subject is administered a single dose and the dose is repeated each successive day.

Lantus disclose a method for administering insulin glargine for the treatment of adults or children with type I or type 2 diabetes, wherein the dose is a single dose of 24-hour insulin, and which is repeated at the same time each day on successive days, thus meeting all the limitations of claim 11.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 11-16, rejected under 35 U.S.C. 103(a) as being unpatentable over Lantus: (insulin glargine [rDNA origin] injection) Diabetes Therapy [online], April 6, 2001 [retrieved on 2006-11-28. Retrieved from the internet: URL:http://www.lantus.com. in view of Ertl (USPN 6,221,633) and Lepore et al (Diabetes (2000) 49:2142-2148).

The instant claims are drawn to a method for administering subcutaneously a once daily dose of basal insulin to a subject in need of treatment for diabetes wherein the subject is administered a single dose after noon or after dinner and the dose is repeated each successive day.

With respect to claims 11-14, and 16 Lantus disclose a method for administering insulin glargine for the treatment of adults or children with type I or type 2 diabetes, wherein the dose is a single dose of 24-hour insulin, and which is repeated at the same time each day on successive days.

Lantus differs from claims 12, 13, and 15 by not reciting the subcutaneous administration of a single dose after noon or after dinner.

Ertl disclose that it is known in the art that blood glucose levels need to be compensated in a subject undergoing insulin therapy most after meals (column 1, lines 33-35). Further, for a basal supply, at night, a preparation should be available that has no pronounced maximum and which infuses very slowly (column 1, lines 55-57).

With respect to claim 15, Lepore disclose that it is known in the art that insulin glargine is injected subcutaneously (paragraph 2, page 2143). Further Lepore also

disclose that it is known in the art that basal insulin, such as NPH insulin is administered at bedtime (Research Design and Methods: Design of Studies, page 2143).

In view of the above teachings it would be obvious to one of ordinary skill in the art at the time of the invention to provide the subcutaneous administration of long-acting insulin glargine after meals in the afternoon or after dinner for the known and expected result of providing a means recognized in the art for keeping variations in blood glucose as low as possible.

Conclusion

10. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemant Khanna whose telephone number is (571) 272-9045. The examiner can normally be reached on Monday through Friday, 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on (571) 272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hemant Khanna Ph.D.
November 29, 2006

B. DELL CHISM
PRIMARY EXAMINER